

Session Program

26 August 2024 to 4 September 2024



XIII International Conference
on New Frontiers in Physics
26 Aug - 4 Sep 2024, OAC, Kolymbari, Crete, Greece

XIII International Conference on New Frontiers in Physics 2024

***Cosmology, Astrophysics, Gravity, Mathematical
Physics***

Orthodox Academy of Crete, Kolymbari, Crete, Greece

Monday 26 August

10:00

Cosmology, Astrophysics, Gravity, Mathematical Physics

Session | Location: Room 1 | Convener: Alexander Dolgov

10:00-10:30

Mystery of the highest energy cosmic rays

Speaker

Elena Arbuzova

10:30

17:40

Cosmology, Astrophysics, Gravity, Mathematical Physics

Session | Location: Room 1 | Convener: Francesco Longo

17:40-18:05

New perspectives from record-high numbers of trapped antiprotons in the AEGIS experiment

Speaker

Saiva Huck

18:05

Tuesday 27 August

09:00

Cosmology, Astrophysics, Gravity, Mathematical Physics

Session | Location: Room 1 | Convener: Elena Arbizova

09:00–09:30

Seeding of cosmic structures and anti-structures by primordial black holes

Speaker

Alexander Dolgov

09:30–10:00

An overview of the LIGO-Virgo-Kagra observational science and results

Speaker

Luca D'Onofrio

10:00

Wednesday 28 August

09:30

Cosmology, Astrophysics, Gravity, Mathematical Physics

Session | Location: Room 1 | Convener: Prof. Armen Sedrakian

09:30-10:00 **Highlights from the Pierre Auger Observatory**

Speaker
Vitor de Souza

10:00-10:30 **DAMA/LIBRA-phase2 results and its empowered stage**

Speaker
Pierluigi Belli

10:30

11:00

Cosmology, Astrophysics, Gravity, Mathematical Physics

Session | Location: Room 2 | Convener: Vitor de Souza

11:00-11:20

The impact on GW waveform SNR of the site dependent noise recorded at the Einstein Telescope candidate sites.

Speaker
Matteo Di Giovanni

11:20-11:40 **Exploring the primordial Universe with QUBIC**

Speaker
Jean-Christophe HAMILTON

11:40-12:00 **Cosmological constraints from DESI DR1**

Speaker
Dr Uendert Andrade

12:00-12:20

Searches for ultra-high-energy photons with the Pierre Auger Observatory: Current status and future perspectives

Speaker
Mr Tim Fehler

12:20-12:40

The transmission muography technique for locating potential Radon gas conduits at the Temperino mine (Tuscany-Italy)

Speaker
Diletta Borselli

12:40-13:00

Anisotropy searches at the highest energy cosmic rays with the Pierre Auger Observatory

Speaker
Federico Maria Mariani

13:00

Thursday 29 August

16:00

Cosmology, Astrophysics, Gravity, Mathematical Physics

Session | Location: Room 3 | Convener: Marco Giammarchi

16:00-16:20

Probing hadronic interactions at the highest energies with the Pierre Auger Observatory

Speaker

Tobias Schulz

16:20-16:40

Latest results from the DAMPE experiment

Speaker

Paul Coppin

16:40-17:00

First Results from the LEGEND Experiment

Speaker

Erin Engelhardt

17:00-17:20

The complex nature of the abnormally weak absorption of cosmic ray hadrons in lead calorimeters at superhigh energies

Speaker

Alexander Borisov

17:20-17:40

Entropy of Unruh radiation from a spherical source with an exponential energy spectrum

Speaker

Maksym Teslyk

18:20

Monday 2 September

09:00

Cosmology, Astrophysics, Gravity, Mathematical Physics

Session | Location: Room 1 | Convener: Dr Luciano Errico

09:00-09:30

16 years of gamma rays discoveries and AGNs observations with Fermi LAT

Speaker

Fausto Casaburo

09:30-10:00

THE EFFECT OF GRAVITY ON ANTIMATTER - THE ALPHA EXPERIMENT

Speaker

Germano Bonomi

10:00

11:00

Cosmology, Astrophysics, Gravity, Mathematical Physics

Session | Location: Room 1 | Convener: Konstantin Zhukovsky

11:00-11:20

The Archimedes experiment: can quantum vacuum feel gravity?

Speaker

Dr Luciano Errico

11:20-11:40

End-to-end Optimization of an Array of Cherenkov Detectors

Speaker

Tommaso Dorigo

11:40

Tuesday 3 September

12:20

Cosmology, Astrophysics, Gravity, Mathematical Physics

Session | Location: Room 1 | Convener: Stefano Passaggio

12:20-12:40 **AugerPrime: Expectations and first results**

Speaker

David Schmidt

12:40-13:00

The SABRE South Experiment at the Stawell Underground Physics Laboratory

Speaker

Peter Charles McNamara

13:00

16:00

Cosmology, Astrophysics, Gravity, Mathematical Physics

Session | Location: Room 2 | Convener: Jon Paul Lundquist

16:00-16:20

The CTA+ Italian Program to complement the Cherenkov Telescope Array Observatory South Site

Speakers

Carla Aramo, Dr Carla Aramo

16:20-16:40

The Pierre Auger Observatory as a Test Environment

Speaker

Sonja Mayotte

16:40-17:00

Constraints on the extragalactic magnetic field and the nature of multi-TeV gamma-rays from the brightest of all time GRB 221009A

Speaker

Timur Dzhatdov

17:00

17:00

Cosmology, Astrophysics, Gravity, Mathematical Physics

Session | Location: Room 2 | Convener: Jon Paul Lundquist

17:00-17:20

Tests and modifications of hadronic interactions in cosmic-ray showers

Speaker

Dr Jakub Vicha

17:20-17:40

Evidence of the nontrivial nature of the alignment phenomenon at superhigh energies

Speaker

Alexander Borisov

17:40

Wednesday 4 September

09:30

Cosmology, Astrophysics, Gravity, Mathematical Physics

Session | Location: Room 1 | Convener: Dr Carla Aramo

10:00

09:30-10:00

Multimessenger Studies with the Pierre Auger Observatory

Speaker

Jon Paul Lundquist